

Bringing IT to the Senegalese people

A participatory approach has helped research influence public policies

In the small Senegalese town of Kouthiaba dozens of pastoralists have turned out on a Sunday morning for the weekly market. All are trying to attract buyers to their livestock. They are also busy swapping information on pastures, diseases, and other essential matters. Some of these pastoralists now have new information and communication technologies at their disposal to obtain this information – the first time in Africa that these technologies (ICTs) have been used for such purposes. The main objective is to demonstrate – mainly to decision-makers – that these modern tools can really help to improve pastoralists' living and working conditions.

These days, some pastoralists are tracking their herds using cellphones and Global Positioning Systems (GPSS). In three trial zones, herders have been taught to read and to prepare geographic maps by working with GPS devices linked to satellites.

Several of these herders have also been equipped with cellphones to speed up the information exchange and provide them with an “early warning system” for impending disasters. As well, some have received training in accessing information on the Web. A site, built in July 2003 and nicknamed “cyber shepherd,” offers maps showing which grazing areas are occupied and which have green vegetation, together with an estimate of the number of animals that can be pastured there without risk to the environment and its resources. It also provides information on ways to treat animal diseases.

This is the first time in Africa that this combination of information and communication technologies (ICTs) has been used for tracking livestock migrations. The main objective is to demonstrate – mainly to decision-makers – that these modern tools can really help to improve pastoralists' living and working conditions.

The pilot project is supported by the International Development Research Centre through its ACACIA Program Initiative: Communities and the Information Society in Africa.

Risks and influence

IDRC was one of the only international agencies prepared to allocate funding for the establishment of ICTs on the African continent in the 1990s. Over the years, through ACACIA, IDRC has invested more than \$40 million in research, demonstration, and evaluation projects on key ICT issues. These include how ICTs can be used to reduce poverty, policies to bridge the digital divide, and the development of local content and knowledge (www.idrc.ca/acacia).

There is an expectation in many IDRC programs and projects that the supported research will influence public policy at the national and local levels. In 2001, IDRC's Evaluation Unit carried out a strategic evaluation to observe whether and how the research IDRC supports influences public policy and decision-making. The ACACIA program was selected as a focus and case studies were prepared on the ACACIA experience in Senegal, Mozambique, South Africa, and Uganda. Khamathe Sene and Ramata Thioune carried out the Senegalese study.

The Senegalese experience

The ACACIA program began in Senegal in 1997, but the beginnings of what might be called a national policy for ICTs was apparent as early as 1985. At that time, the National Telecommunications Company (SONATEL) was established, reflecting the determination of the Senegalese government to give priority to development of the telecommunications sector.



It was not until 1996, however, that the government issued its first statement on a telecommunications development policy. In its 9th Economic and Social Development Plan, published in 1997, the government set forth a strategy for strengthening access to information and promoting social communication. The Plan declared that "information and communication technologies can no longer be regarded as a luxury for the elite, but must be seen as an absolute necessity for development."

The strategy was still no more than a vision for the future, however. As the Sene and Thioune study point out, there was no official national strategy for introducing and using ICTs to resolve the country's economic and social development problems.

Since 1997 the national and international context has changed considerably, the study suggests, with growing awareness of the role of ICTs in development, and increasing efforts to introduce ICTs into key development sectors. A minister of communications, a computer expert by training, was appointed; he had set up the parliamentary network on ICTs (with help from ACACIA) in 1999. The Senegalese president suggested that the costs of telephone service should be reduced and his ICT counselor announced that the mobile telephone market would be opened to an independent operator. In 2000, the prime minister declared the government's intention to use ICTs to communicate more closely with citizens, and he announced that the implementation of the administrative information and communication system would be accelerated.

That same year, the main features of a national policy for democratizing access to ICTs was announced. In 2002, the Telecommunications Regulation Agency was created as an independent regulatory body responsible for ensuring fair and healthy competition for the benefit of consumers, telecommunications operators, and the Senegalese economy in general, and for accelerating the development of communications. The country now has some of Africa's most highly developed telecommunications infrastructure.

Today Senegal's 30 administrative subdivisions are connected to the central network through a digital transmission link, and all rural administrative centres have access to telephones. The network for data transmission, launched in 1988, gave enterprises access to databanks and allowed them to connect to foreign networks. The country has 14 Internet service providers, 12 of them based in Dakar.

As the Sene and Thioune study points out, ICTs are accorded an important place in the New Partnership for Africa's Development (NEPAD), reflecting the vision of development championed by the Senegalese government that is responsible, among other things, for the ICT aspects of NEPAD.

But the study adds: "...despite the favourable policy indicators and the fairly coherent view of the role of ICTs in development, Senegal does not yet have a coherent and integrated ICT policy. The emphasis is still on a sectoral approach. Moreover, implementation of these sectoral policies themselves appears to have stalled, although the education sector seems to be making progress in integrating ICTs into the education system and the Ten-Year Education and Training Plan assigns an important place to the technologies."

ACACIA's role in Senegal

Preparation of the Senegal ACACIA Strategy (SAS) began in 1996 under the aegis of IDRC and at the instigation of Alioune Camara, IDRC program officer in Dakar. Various national and local institutions representing government and civil society, researchers, and development players were involved. The Senegal initiative was approved by IDRC in 1997. The SAS objective was to encourage the establishment of an independent framework for concerted action in the ICT field, a framework that would provide the political authorities with a solid basis for their ICT policy.

The study notes: "In Senegal, ACACIA sought to encourage a national strategy for adopting and integrating ICTs in support of development." The SAS thus became part of the institutional framework for decentralization and empowerment of development players, in a context where decisions regarding the introduction of ICTs were haphazard and uncoordinated.

From the beginning, policies were the key topic of debate: regulation, incentives, access issues, as well as the role of the private sector. "At the programming level, the ACACIA initiative is participatory, and it has a two-pronged strategy. First of all, it seeks to influence policies by supporting the introduction of a regulatory body and an independent framework for coordinating ICT activities. On the other hand, as a research program, ACACIA seeks to develop scientific arguments that policymakers can use for integrating ICTs more thoroughly into the country's economic and social fabric."



As the study points out, the SAS was essentially based on a series of experimental projects. Several were undertaken in the main priority fields of education, health, governance, national resource management, employment, and entrepreneurship.

The youth cyberspace experiment

One such project was the youth cyberspace experiment in secondary schools in Senegal. Aware that little attention was being paid to problems of the environment and reproductive health in the country's school system, a Senegalese nongovernmental organization, (GEEP), had initiated "family life education clubs" in several schools. Scattered throughout the country, they faced major communications problems.

In their report, Sene and Thioune state that, from the outset, the intent of the ACACIA project was to influence education policy by introducing ICTs in the schools. Another aim was to change the attitude of the school community toward innovation. According to the project leader, "teachers involved in the project now know that ICTs can revolutionize information, and that knowledge is not limited to textbooks."

The study points out that Ministry of National Education officials are increasingly interested in the problems of introducing ICTs in schools, thanks in part to their awareness of the project. The Ministry has noted that the project provides an innovative model for integrating ICTs into the daily work of teachers. There is also increasing evidence of greater quality in teaching and of better academic performance, thanks to the introduction of ICTs.

The study adds: "It is because the project team belongs to the school system, and is highly familiar with it, and because of its openness to innovation and its strategy of developing a diversified partnership, that it has been able to achieve these results and to exert a surprising degree of influence on national education policy."

Supporting gender equality and decentralization

Another project has used ICTs to support gender equality in Senegal by giving women the means to exert pressure on the authorities to amend the Family Code to replace the notion of parental authority to that of joint parental responsibility. The study points out that, thanks to the project, the ground has been laid for a national debate on

the issue. A law has been drafted and, if adopted, should help to correct gender inequality.

ICTs have also been used to inform and sensitize local officials and the government about the role and impact of ICTs in Senegal's commitment to decentralization. Local governments are taking increasing responsibility and several policy areas, such as education, health and governance, have been transferred to them.

Many obstacles remain to this transfer of power, however, not the least of which is the fact that most laws and regulations are in the official language (French) while most local officials are illiterate even in their local language. One aim of the project is to summarize the major laws and regulations governing decentralization, translate this into local languages, and post it online.

Findings

Thanks to its participatory approach, ACACIA has been able to exert influence of various kinds, directly or indirectly, on public policies in Senegal, the study suggests. These include the development of a new approach to ICT policy with an integrated and organized vision: the establishment of the Telecommunications Regulation Agency is one illustration. ACACIA encouraged this to achieve greater social equity in democratizing access to ICTs.

ACACIA has had secondary or indirect influence on strengthening the capacities of policymakers and development players, providing a reliable database of experience in the use of ICTs to create conditions for partnership, and encouraging opportunities for interchange and learning.

In some cases, ACACIA succeeded in bringing about changes in the way sectoral policies and programs were introduced. The project on youth cyberspace sought to help the education ministry authorities prepare a program for introducing ICTs into the schools. As a result of the public awareness raised by the project for using ICTs in support of gender equality, the Senegalese government has introduced legislation to modify the Family Code to achieve greater gender equity. Decentralization has been enhanced by using ICTs to provide access to information on decentralization policy and to increase the effectiveness of local governments. And in the health field, the Senegalese government is currently supporting projects based essentially on experience with an ACACIA project on telemedicine.



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ACACIA, says the study, has also made a significant contribution to raising awareness about the importance of ICTs for development. "Many players have seized upon these technologies for use in the service of human development and have worked together to strengthen their ability to make progress on socioeconomic issues ... and in politics (participation by individual candidates in municipal and rural elections)." It adds: "ICTs have broadened the outlook of members of these organizations through the international exchange of experience, and have offered them greater possibilities to bring their projects to a successful conclusion with support from abroad."

By involving national researchers in certain studies, ACACIA has also helped to strengthen national research capacities on the issue of ICTs and development. The gender dimension was not a prime concern of ACACIA in Senegal, but the SAS tried to correct this focus by supporting projects specifically devoted to women and by commissioning a study on how to integrate the gender dimension into projects.

The study does suggest, however, that the SAS could have left a greater mark on policies if it had transformed itself into an independent national body that would have attracted other donors.

The International Development Research Centre (IDRC) is a Canadian public corporation, created to help developing countries find solutions to the social, economic, and natural resource problems they face. Support is directed to building an indigenous research capacity. Because influencing the policy process is an important aspect of IDRC's work, in 2001 the Evaluation Unit launched a strategic evaluation of more than 60 projects in some 20 countries to examine whether and how the research it supports influences public policy and decision-making. The evaluation design and studies can be found at: www.idrc.ca/evaluation/policy